GCCS System Integration Support

JEPES Preliminary Software Design - RPI Interface

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JEPES PRELIMINARY SOFTWARE DESIGN - RPI INTERFACE
TABLE OF CONTENTS

FIGURES

1.0 SCOPE

This document provides an overview for the preliminary design to add the Real Property Inventory (RPI) interface into the Joint Engineer Planning and Execution System (JEPES).

1.1 Introduction

JEPES is a subsystem within the Global Command and Control System (GCCS), the follow-on system to the Worldwide Military Command and Control System (WWMCCS). JEPES assists the planner in developing the Civil Engineering Support Plan (CESP) annex to an Operation Plan (OPLAN). RPI, formerly a part of the WWMCCS is a new subsystem under the GCCS.

This preliminary software design document describes the JEPES interface with RPI and describes JEPES functionality once the RPI data are made available to JEPES.

1.2 Summary

The JEPES algorithm starts with the civil engineering data imported from the Joint Operation Planning and Execution System (JOPES) Core database. JEPES identifies the facilities required to support deploying forces, apply existing assets to fulfill these requirements, and assign engineering resources to construct remaining unsatisfied requirements. Figure 1.2-1 describes the JEPES processes. The grey boxes are the Commercial Off-the-Shelf (COTS) processes that are not controlled by the JEPES application. Refer to the JEPES Users Manual (See Section 2, Reference *a*) for more information on JEPES.

RPI's function is to update the current OPLAN Asset files. RPI will receive asset data from the Army, Navy, and Air Force. RPI will combine the asset data and then make data available to individual JEPES sites. This functionality is done on a yearly basis, so JEPES sites will only need to extract asset data once a year. Figure 1.2-2 describes the JEPES data flow with the bold boxes describing the new RPI interface.

1.3 Conclusions

In conclusion, JEPES will retrieve U.S. combined asset data from RPI on a yearly basis. RPI is a new application, which will be developed in Gain Momentum (GM). JEPES will be converted to GM from ORACLE Forms 4.0. The major advantages to the conversion is the following:

1. **V2 Triggers**. Removes the dependency on the ORACLE Forms 4.0 Version 2 triggers. Currently, JEPES is using ORACLE Forms 4.0, which still has Version 2 triggers. ORACLE will not support Version 2 triggers for ORACLE Forms 4.5. If JEPES needs to be upgraded to ORACLE Forms 4.5 then the Version 2 triggers will have to be rewritten into Procedural Language/Structured Query Language (PL/SQL). JEPES has 43 forms with a total of 90 windows and 70 percent of the triggers are Version 2.

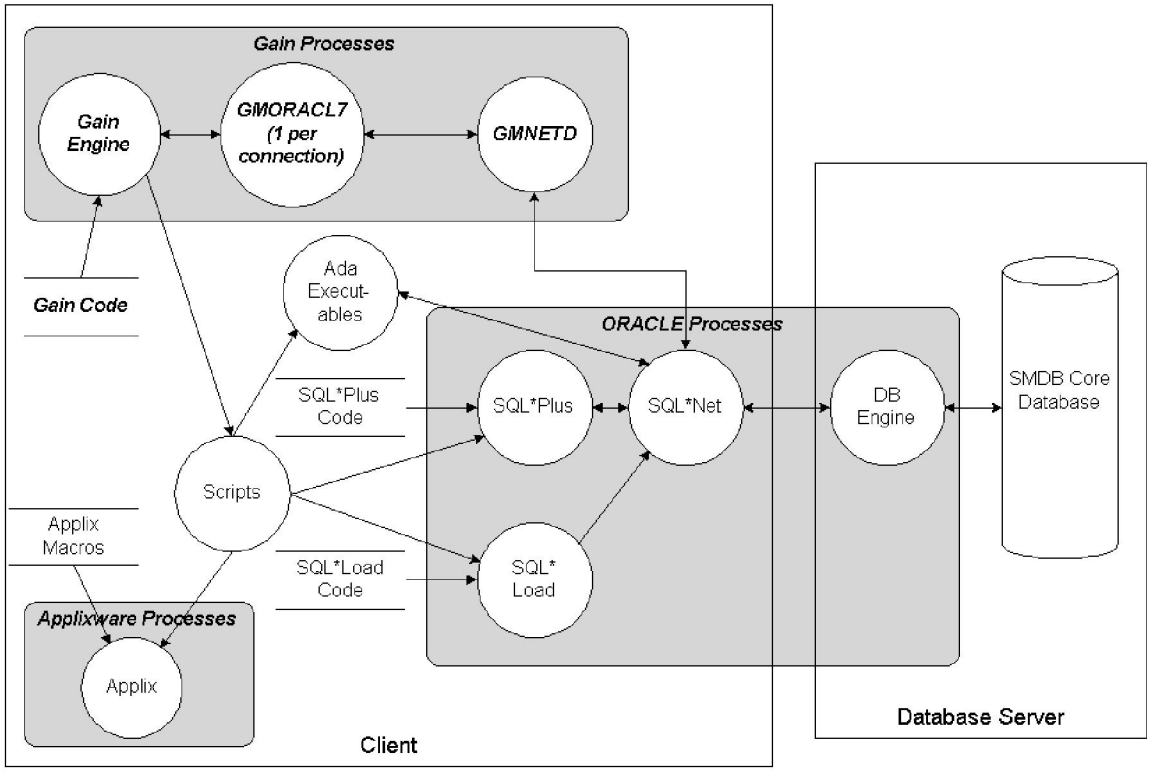

Figure 1.2-1. JEPES Processes

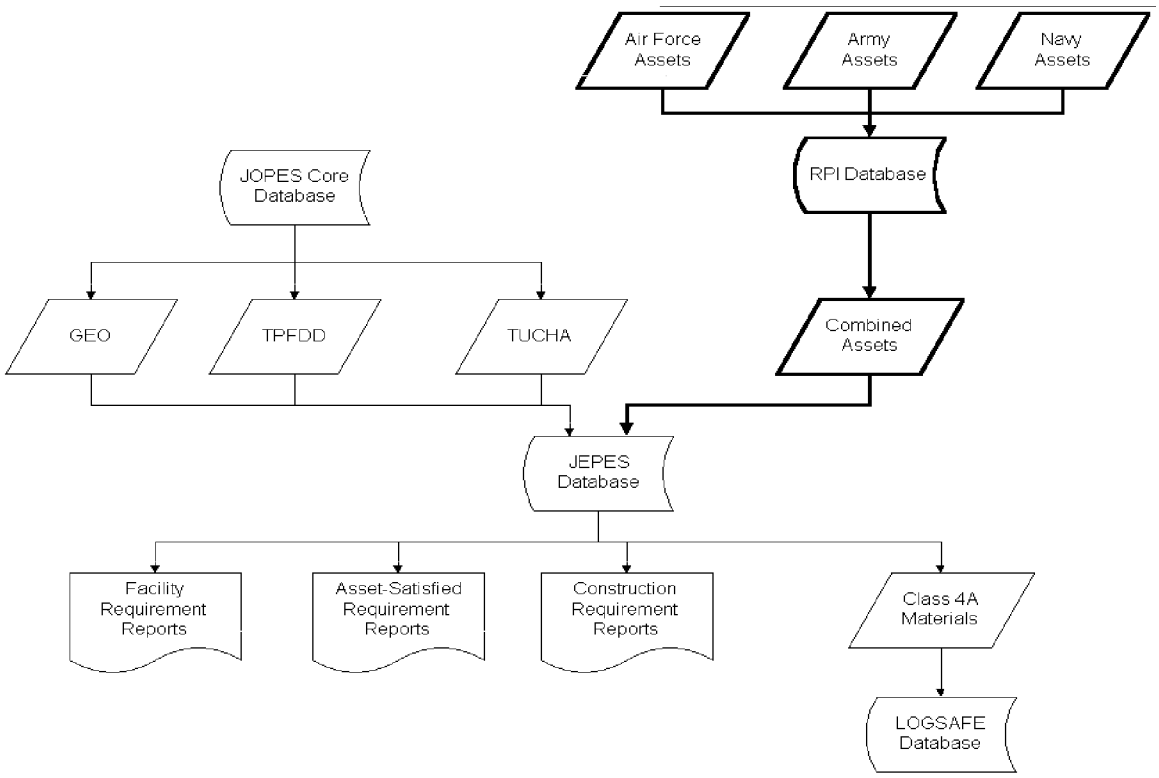

Figure 1.2-2. JEPES Data Flow

2. **Configuration Management**. GM has built-in Configuration Management (CM) tools. An application is checked out to only one user at a time. The application must be checked in before other users can see the updated application. ORACLE Forms 4.0 has no CM tools.

3. **Reuse**. GM software produced elsewhere is available to JEPES and the proposed RPI interface will save time and money to develop.

4. **One Executable**. GM creates one executable for *x* number of libraries and applications. ORACLE Forms 4.0 creates an executable for each form.

1.4 Referenced Documents

The following documents are applicable or referenced in this document:

a. Defense Information Systems Agency, GCCS System Integration Support, Joint Engineer Planning and Execution System (JEPES), Users Manual, Washington D.C., May 15, 1995.

b. Joint Data Systems Support Center, Joint Operation Planning System (JOPS), Civil Engineering Support Plan Generator (CESPG) Computer System Manual (CSM), UM 122-86, Washington, D.C., April 1, 1986.

2.0 APPROACH

2.1 Interface Design Between JEPES and RPI

1. Two sites are involved, a client site (the JEPES site) and a host site (the RPI site). JEPES will reside at several sites, while RPI will only reside at the Pentagon.

2. At each client site (JEPES), there will be a JEPES administrator account (possibly called jep_admin).

3 At installation of the client site, a database link to the host (RPI) database and a snapshot of the RPI Combined_Asset table will be created. In order to create the snapshot, the JEPES administrator account will need to have select privileges on the RPI Combined_Asset table. This will require the JEPES administrator account to reside at the host site, as well as all client sites.

4. A snapshot of a table requires updating; i.e., refreshing, whenever the master table gets updated. So, when RPI updates the Combined_Asset table, the RPI user will need to notify the JEPES sites by either e-mail or a homepage on the Internet. Once notified, each JEPES site will need to refresh data in the Combined_Asset table. To refresh data, the JEPES user will select the Utilities file menu under the JEPES Main Menu window, and click **{Combined Asset (CA)}**, and then click **{Refresh CA data from RPI}** from the submenu.

2.2 JEPES Combined Asset Data Design

1. After refreshing the Combined_Asset table data, the JEPES user can then extract data into the Asset table and War_Damage_Factor table. Extracting data requires matching the Geographic Location (Geoloc) Code from the JEPES Base_Location table with the Geoloc Code from the Combined_Asset table to determine the Base Complex Number (BCN). Figure 2.2-1 describes the relationship between the Combined_Asset, Asset, and Base_Location tables. To extract data, the JEPES user will select the Utilities file menu under the JEPES Main Menu window, and click **{Combined Asset (CA)}**, and then click **{Extract CA data into Asset & War Damage Factor}** from the submenu.

2. Asset Owner will always be set to 'U,' which stands for United States. The Asset Comment will be input by the user.

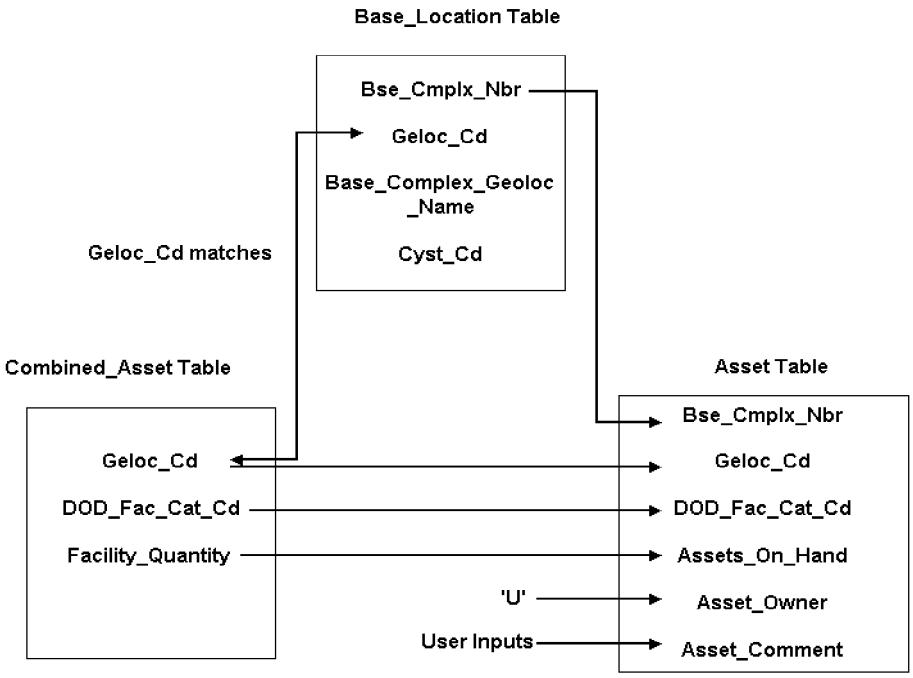

Figure 2.2-1. Tables Relationship

3. The Combined_Asset table records will replace the existing records in the Asset table and War_Damage_Factor table. All data in the Asset table will be replaced except for Asset Owner and Asset Comment. For new assets, the Asset Owner will be set to 'U' and the Asset Comment will be set to blank. All data in the War_Damage_Factor table will be replaced except for the War Damage Factor data elements and the Restoration Factors. For new assets, the War Damage Factor data elements will be set to zero and the Restoration Factors will be set to one.

4. There will be browse-only capability for the Combined_Asset table. To browse data, the JEPES user will select the Utilities file menu under the JEPES Main Menu window, and click **{Combined Asset (CA)}**, and then click **{Browse CA data}** from the submenu.

2.3 Software

2.3.1 Procedural Language/Structured Query Language

PL/SQL, SQL or stored procedures will be created to do the following:

- Refresh the Combined_Asset table data.

- Extract Combined_Asset table data into the Asset and War_Damage_Factor tables.

2.3.2 Graphical User Interface

GUI screens will be created to do the following:

- Add Combined Asset to the Utilities pull-down menu, as shown in Figure 2.3.2-1. The following options will be made available: Refresh the Combined_Asset table data from RPI, extract the Combined_Asset table data into the Asset and War_Damage_Factor tables, and browse the Combined_Asset table data.

- Create a browse only Combined_Asset table window, as shown in Figure 2.3.2-2.

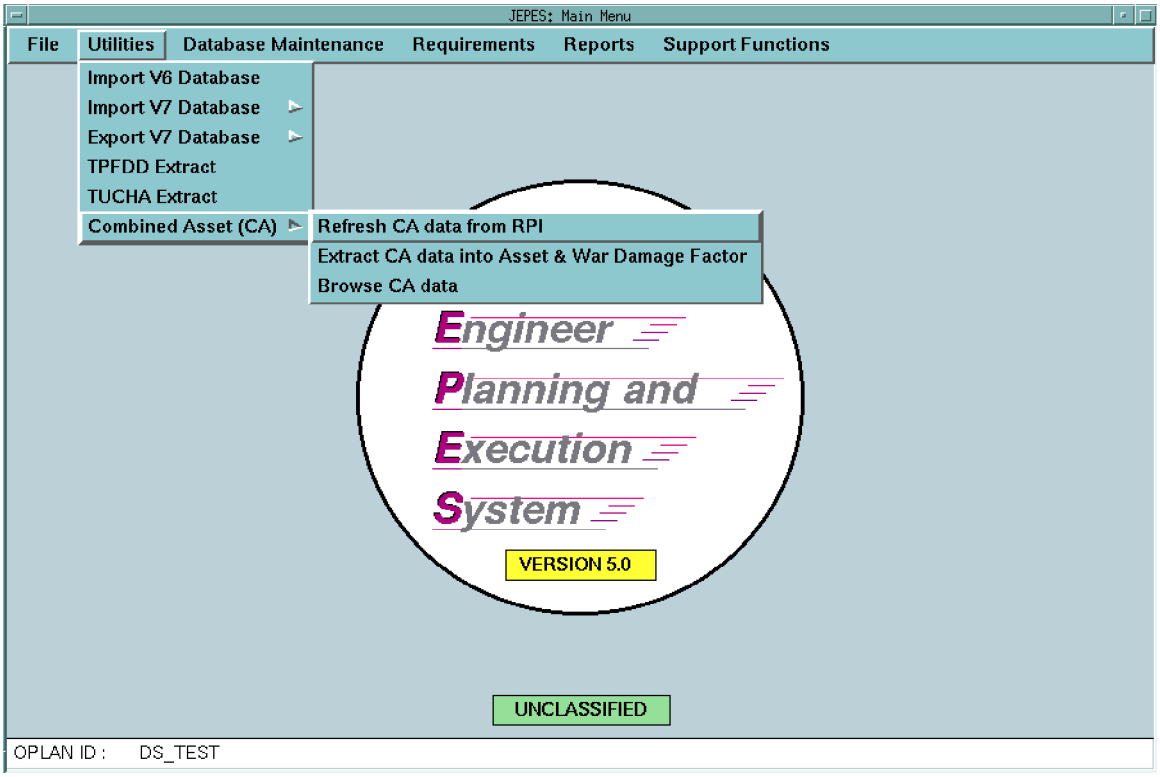

Figure 2.3.2-1. JEPES Main Menu

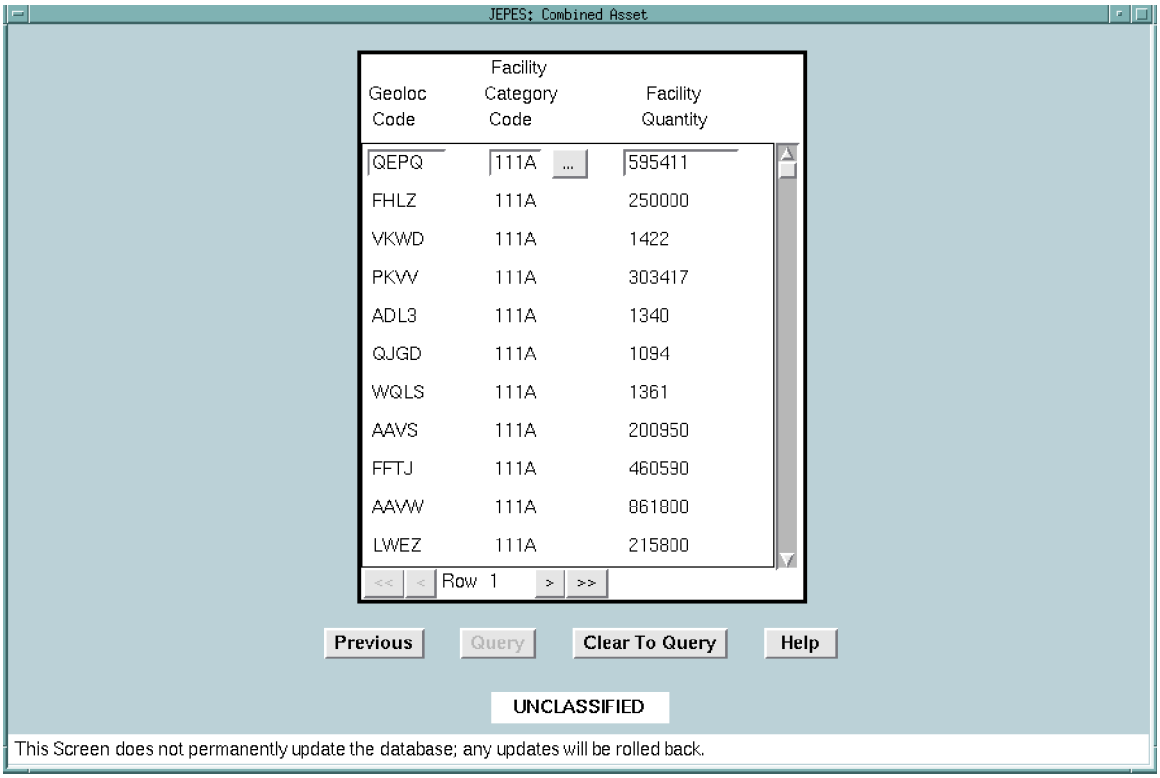

Figure 2.3.2-2. Combined_Asset Table

2.4 Notes

The following is a list of terms, acronyms, and abbreviations used throughout this document.

ASCII	American Standard Code for Information Interchange
BCN	Base Complex Number
CESP	Civil Engineering Support Plan
CINC	Commander-in-Chief
CM	Configuration Management
COTS	Commercial Off-the-Shelf
DB	Database
Geoloc	Geographic Location
GM	Gain Momentum (A Sybase Product)

GCCS	Global Command and Control System
GUI	Graphical User Interface
HN	Host Nation
ID	Identification
JEPES	Joint Engineer Planning and Execution System
JOPES	Joint Operation Planning and Execution System
OPLAN	Operation Plan
PL/SQL	Procedural Language/Structure Query Language
RPI	Real Property Inventory
SQL	Structured Query Language
WWMCCS	Worldwide Military Command and Control System